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ABSTRACT

The tutorial program provides in-school, individualized instruction for interstate, intrastate, and resettled migrant children residing in Ulster, Orange, Saratoga, Dutchess, and Sullivan counties. Individualized diagnostic prescriptive mathematics instruction is provided utilizing the I.M.S. Mathematics System which has 96 units and 493 specifically defined skills as the basic instructional component. Each child's tutorial instruction results from diagnostic data provided by the I.M.S. system and, in most cases, from close consultation between the tutor and the classroom teacher. Thus, the mathematics skills acquired by the children supplement and augment the skills taught during the classroom instruction. From September 1975 to April 1976, 443 migrant children in grades K-12 were provided tutorial instruction by 27 trained tutors. Involved in 14,887 tutorial instructional sessions, these children acquired a total of 1,178 specifically defined I.M.S. skills. Data indicate that on a migrant category and program-wide basis, migrant children are acquiring specific competencies in mathematics and that these competencies are in addition to the skills they would have acquired if they did not receive tutorial instruction through the New Paltz Regional Tutorial Program. (NQ)

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# Mathematics Skill Acquisition Report

# The New Paltz Regional Tutorial Program

Compiled by

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MAY 1976

sponsored by:

Bureau of Migrant Education
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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## Introduction

This skill analysis report was undertaken to examine whether migrant children in the New Paltz Regional Tutorial Program were acquiring mathematics competencies at an accelerated rate.

For the purposes of utilizing the most recent data available, this report does not use the data developed for a full program year, but data from only a portion of the 1975-76 school year beginning September 1, 1975 to April 1, 1976. The number of possible instructional sessions* used in this report varied among the program's participating school districts due to calendar differences and closings due inclement wheather. Possible instructional sessions* ranged from 132 to 138 among the program's

*Tutorial Instructional Session - a scheduled period of time during which a migrant child works with a tutor on basic reading, mathematics and related classroom skills. The daily sessions last from 30 minutes to one hour, with mathematics instruction taking up no more than 10-20 minutes of each session. During each session the tutor-child ratio does not exceed one-to-three with most sessions conducted one-to-one.

participating school districts.

Participating School Districts:

| Orange County | Ulster County |
|---|---|
| Florida (S.S. Seward) | Highland |
| Goshen | Marlboro |
| Middletown | New Paltz |
| Minisink | Rondout |
| Pine Bush | van den Berg Learning Center |
| Warwick | Wallkill |

| Sullivan County | Dutchess County |
|---|---|
| Fallsburg | Pine Plains |
| Liberty | Webutuck |

Saratoga County

Schuylerville

The Regional Migrant Tutorial Program

The New Paltz Regional Tutorial Program provides in-school, individualized instruction for migrant children during the academic school year. Sponsored by the Bureau of Migrant Education under the guidance of Mr. Richard Bove, Chief and Mr. Herbert Gaige, Associate, the program presently serves migrant children residing in Ulster, Orange, Saratoga, Dutchess and Sullivan counties.

The program, administered by Mr. Laszlo Nagy, Tutorial Program Director and Mrs. Margaret Taylor, Migrant Coordinator, operates from the van den Berg Learning Center at the State University College at New Paltz, which also houses a curriculum library and a variety of support materials for the program.

During the period of September 1, 1975 to April 1, 1976, the Tutorial Program has served 443 migrant children in grades Kindergarten through

twelve. Tutorial instruction was provided by 27 trained tutors who worked in 17 school districts of the Mid-Hudson Region.

The Specific Objectives for the Migrant Tutorial Program are:

To develop performance competencies in mathematics and language arts and to help each child learn sequential math and language arts skills according to his developmental and conceptual level and learning style. To this end, during the 1975-76 school year the tutorial program has initiated English as a Second Language as a component that will help the non-English speaking migrant child

To develop positive attitudes toward school

This tutorial program is unique among New York State's tutorial programs in that it has as one of its three major components** individualized diagnostic prescriptive mathematics instruction for migrant children.

Nearly completing its second full year of

**The three components are, language arts (reading), mathematics and English as a Second Language.

operation, the program utilizes as its basic mathematics instructional component the I.M.S. Mathematics System. This system having 96 units and 493 specifically defined skills, has been found to be most successful in meeting the mathematics instructional needs of a majority of the program's migrant children. Because the I.M.S. system provides for rapid diagnosis and the appropriate instructional materials, newly arriving migrant children do not have to be subjected to lengthy pre-testing procedures. As soon as the initial placement and diagnosis is finished (approximately four instructional sessions), instruction can begin with evaluation (post-testing) continuing as an on-going process. Thus, I.M.S. gives the program the opportunity to maximize instructional time with children whose movements from one geographic location to another are sudden and unpredictable.

Each migrant child's tutorial instruction in

mathematics is a result of not only the diagnostic data provided by the I.M.S. system, but also, in most cases of close consultation between the tutor and the child's classroom teacher. With this continual communication, there is a guarantee that tutorial instruction and classroom instruction do not overlap or displace one another. Thus, the mathematics skills acquired by the program's migrant children do supplement and augment the skills taught during the classroom instruction.

I. Program Enrollment

Up to April 1, 1976, the New Paltz Regional Tutorial Program has served 443 migrant children.

| | |
|---|---|
| Interstate migrant children | 169 |
| Intrastate migrant children | 140 |
| Resettled migrant children | 134 |
| Total Migrant Children served by program-- | 443 |

## II. Tutorial Instructional Sessions

The migrant children were involved in 14,887 tutorial instructional sessions*, during which mathematics instruction took place.

| | |
|---|---|
| Interstate migrant children | 3549 sessions |
| Intrastate migrant children | 5417 sessions |
| Resettled migrant children | 5921 sessions |
| Total Instructional Sessions-- | 14,887 sessions |

The number of tutorial instructional sessions* per migrant child ranged:

| | |
|---|---|
| Interstate migrant children | 1-102 sessions |
| Intrastate migrant children | 1-107 sessions |
| Resettled migrant children | 2-126 sessions |
| Total Number of Children served by program-- | 1-126 sessions |

The average number of instructional sessions* for each migrant child served by the program:

| | |
|---|---|
| Interstate migrant children | 21.0 sessions |
| Intrastate migrant children | 38.7 sessions |
| Resettled migrant children | 44.2 sessions |
| Total Number of Children served by program-- | 33.6 sessions |

III. Skill Acquisition

During the period of September 1, 1975, to April 1, 1976, migrant children acquired a total of 1278 specifically defined I.M.S. skills. The number of skills acquired by migrant category ranged:

| | |
|---|---|
| Interstate migrant children | 324 skills |
| Intrastate migrant children | 359 skills |
| Resettled migrant children | 495 skills |
| Total Skills-- | 1,178 skills |

The average number of I.M.S. skills acquired by migrant children ranged:

| | |
|---|---|
| Interstate migrant children | 1.91 skills |
| Intrastate migrant children | 2.56 skills |
| Resettled migrant children | 3.69 skills |
| All Migrant Children in Program-- | 2.65 skills |

The number of specific mathematics skills acquired ranged by migrant category:

| | |
|---|---|
| Interstate migrant children | 0-9 |
| Intrastate migrant children | 0-10 |
| Resettled migrant children | 1-14 |

From the data presented it is reasonable to conclude that on a migrant category and program-wide basis, migrant children are acquiring specific

competencies in mathematics and that these competencies are in addition to the skills they would have acquired if they did not receive tutorial instruction through the New Paltz Regional Program. Also, the consistently increasing rate of skill acquisition from one migrant category to another is directly related to the increases in tutorial instructional sessions from one migrant category to another. Thus, the longer a migrant child receives mathematics tutoring in the program, the more competent the child will be in mathematics.

The data presented also shows that the New Paltz Tutorial Program's method of diagnosing instructing and evaluating mathematics skills effectively serves the academic needs of migrant children.

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